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(54) **TWO-AXIS ROTATABLE MECHANICAL EYEBALL**

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See application file for complete search history.

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(57) **ABSTRACT**

A mechanical eyeball includes an outer housing shaped as an ocular surface configured to rotate about a first rotational axis and a second rotational axis that intersect at a fixed center point. The outer is housing is coupled to a mechanical assembly, and the mechanical assembly is contained within a volume associated with the mechanical eyeball. The mechanical assembly can include a stationary gear train and rotatable components that rotate relative to the gear train. The rotatable components are configured to cause rotation of the outer housing about one or more rotational axes. The volume may be substantially the same volume of a human eye. The mechanical assembly is coupled to one or more drivers configured to actuate rotation of the outer housing.

20 Claims, 11 Drawing Sheets